# CCA GCA ACC AAT GAT GCC CGT T-TAMRA-3' CA GCA ACC AAT GAT GCC CGT T-TAMRA-3'

CCA GCA AGC ACT GAT GCC TGT T-TAMRA-3' CA GCA AGC ACT GAT GCC TGT T-TAMRA-3'

# Fig. 1A

#### Fluorescent Dyes

	Absorbance Maxima	Emission Maxima
Fluorescein	494nm	525nm
Tetrachloro fluorescein	521nm	536nm
TAMRA	565nm	580nm

## Fig. 1B

#### Cleaved Fragments:

Fig. 1C

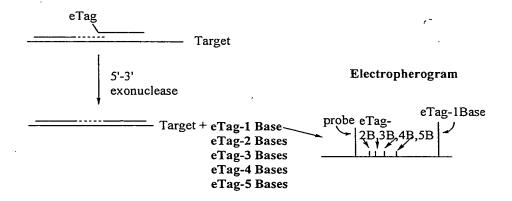


Fig. 3A

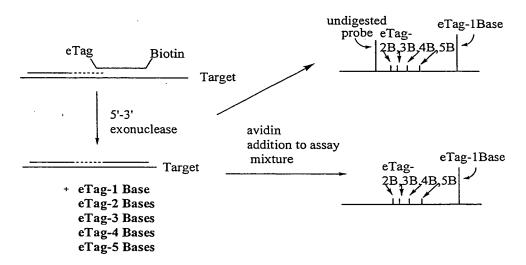


Fig. 3B

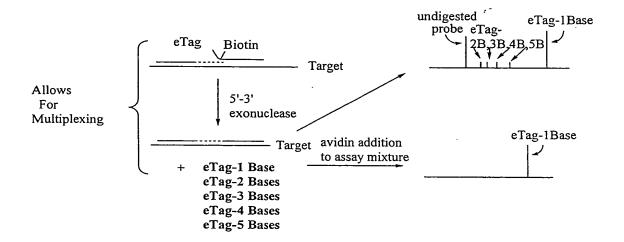


Fig. 3C

Fig. 3D

Fig. 4

e-tag Reporter HO	Elution Time on CE, min	Mass
HO O O O O O O O O O O O O O O O O O O	6.4	778
CI CI COOH  OHO  OHO  OHO  OHO  OHO  OHO  OHO	7.1	925
CI CI OH NH2  NH2  NH2  NH2  NH2  NH2  NH2  NH2	7.3	901
CI CI OH NH2  HN CI CI OH NHN  CI CI OH OH NH2	7.7	994
CI COOH  OHO  OME  OME  OME  OME  OME  OME	8.0	985
CI CI COOH NH2 O-P-O-OH OH OH	9.25	961

Fig. 5

e-tag Reporter	Charge	Elution Time, min
O_Fluorescein		
$H_{0}^{h}()$ $C_{5}^{O}$ $C_{7}^{O}$ $C_{3}^{O}$ $C_{3}^{O}$ $C_{3}^{O}$ $C_{3}^{O}$	-8	12.1*
	dC	
O Fluorescein		<i>*</i> *
HN O O O C C C C C C C C C C C C C C C C	C <sub>6</sub> — -9	12.7
ONTIUDIESCEIII		
HN O P-O-C <sub>6</sub> C <sub>6</sub> C <sub>6</sub> C <sub>6</sub> C <sub>6</sub> C <sub>6</sub> C	-8	12.8
HN () O-P-O-C <sub>6</sub> C <sub>6</sub> C <sub>6</sub> C <sub>6</sub> C	· -7	13.1
O Fluorescein	,qC	
HN+YO-B-O-C C C		12.0
O-P-O-C <sub>3</sub> C <sub>3</sub> C <sub>9</sub>	<b>-6</b> C	13.0
O Fluorescein  HN $\bigcirc$ O-P-O-C <sub>6</sub> C <sub>6</sub> C <sub>6</sub>		
0-C <sub>6</sub> C <sub>6</sub> C <sub>6</sub> C <sub>6</sub>	<b>-6</b>	13.4
O Fluorescein  O Fluorescein  O Fluorescein  O Fluorescein		
HN() O-P-O-C <sub>3</sub> C <sub>3</sub>	-5	12.8*
O Fluorescein  HN O Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö-Ö		
HN() 0-P-O-C <sub>3</sub> C <sub>9</sub>	-5	13.2*
O <sub>√</sub> Fluorescein dC		
O Fluorescein O HN O O P O C <sub>9</sub> C <sub>9</sub> 5 O dC	-5	14.8
O Fluorescein		
OFFIuorescein OHN OF-O-TTTdC 5 O-	-6	17.3
O Fluorescein	- <b>5</b>	17.0
5 Ö-	-3	17.0
HN/ \sigma_= -	•	17 O.h
HN () O-P-O-TTdC O-Fluorescein HN () O-P-O-C <sub>9</sub> dT	-4	15.2*
OFluorescein		
O Fluorescein O HN () O P O – TdC	-4	16.5
J	Fig. 6	
	9.	

Fig. 7

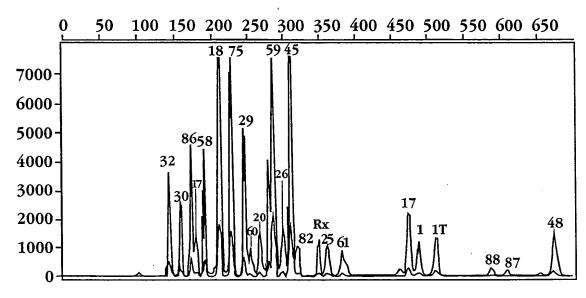


Fig. 8

Fig. 9

(9 negative charges per coupling)

Fig. 10

Fig. 11

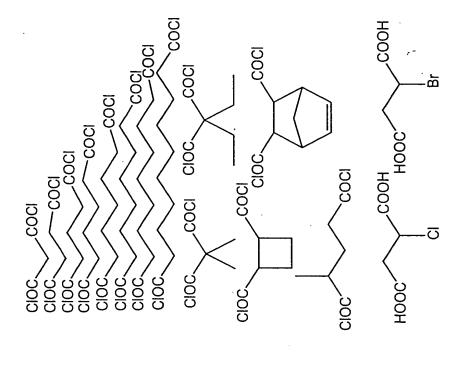
$$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \\ \\ \\ \end{array} \end{array} \end{array} \begin{array}{c} \begin{array}{c} \\ \\ \\ \end{array} \end{array} \begin{array}{c} \\ \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \\ \\ \\ \end{array} \begin{array}{c} \\ \\ \\ \\ \\ \end{array} \begin{array}{c} \\ \\ \\ \\ \end{array} \begin{array}{c} \\ \\ \\ \\$$

Fig. 12

HO CIOC—R-COCI

$$H_2O$$
 $H_2O$ 
 $H_2O$ 

Fig. 13



-CONH<sub>2</sub>

CH, OH H2N

OH H<sub>2</sub>N\_

P.

Fig. 14

`S' OH H<sub>2</sub>N,

Fig.

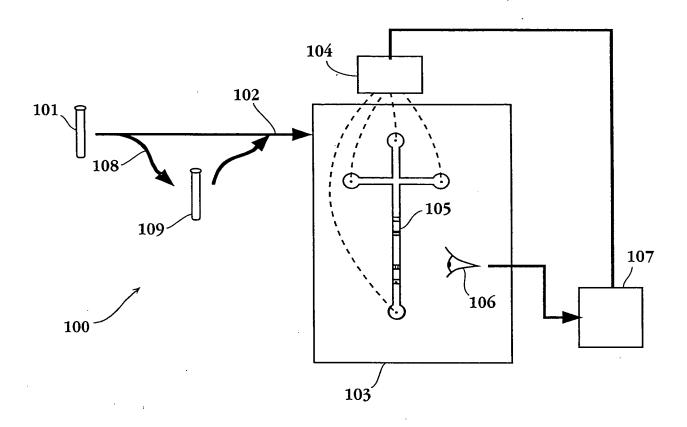


Fig. 16

# ACLA001 ACLA007 Fluorescein Fluorescein ACLA008 ACLA002 Fluorescein ACLA003 ACLA009 Fluorescein ACLA004 ACLA010 \_Fluorescein ACLA005 ACLA011 Fluorescein ACLA006 ACLA012

Fig. 17A

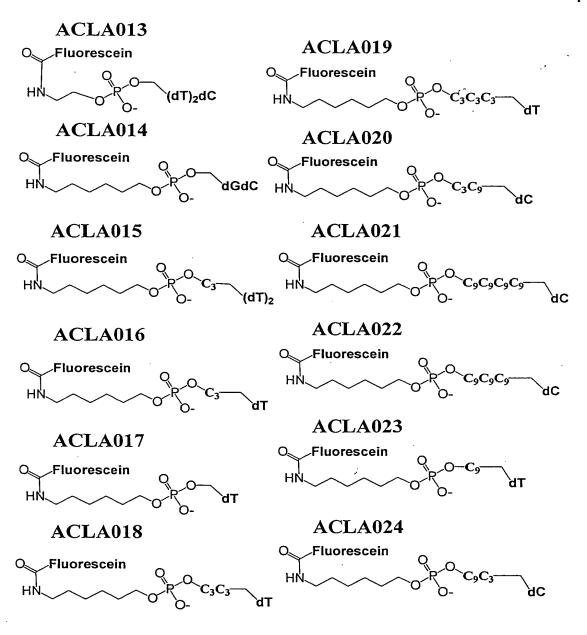


Fig. 17B

## ACLA031 ACLA025 Fluorescein Fluorescein ACLA032 ACLA026 Fluorescein Fluorescein ACLA033 ACLA027 Fluorescein Fluorescein ACLA034 ACLA028 Fluorescein Fluorescein ACLA035 ACLA029 Fluorescein Fluorescein ACLA036 ACLA030 Fluorescein Fluorescein **dTdG**

Fig. 17C

## ACLA037 ACLA043 Fluorescein Fluorescein ACLA038 ACLA044 Fluorescein Fluorescein HN ACLA039 Fluorescein ACLA045 Fluorescein Эb′ ACLA040 Fluorescein ACLA046 Fluorescein ACLA041 Fluorescein ACLA047 Fluorescein ACLA042 Fluorescein

Fig. 17D

## ACLA048 Fluorescein ACLA054 Fluorescein НΝ ACLA055 ACLA049 Fluorescein Fluorescein ACLA056 ACLA050 Fluorescein Fluorescein ACLA057 ACLA051 Fluorescein Fluorescein ACLA058 ACLA052 Fluorescein Fluorescein ACLA059 ACLA053 Fluorescein Fluorescein

Fig. 17E

## ACLA060 ACLA065 Fluorescein Fluorescein дC ACLA061 ACLA066 Fluorescein Fluorescein Эď ACLA062 ACLA067 Fluorescein Fluorescein ACLA068 ACLA063 Fluorescein Fluorescein ACLA069 ACLA064 Fluorescein Fluorescein

Fig. 17F

Fig. 17G

Fig. 17H

## ACLA089

#### ACLA090

#### Fluorescein

#### ACLA091

#### Fluorescein

#### ACLA092

#### Fluorescein

#### ACLA093

#### - Fluorescein

### ACLA094

#### Fluorescein

## ACLA095

## Fluorescein

## ACLA096

#### Fluorescein

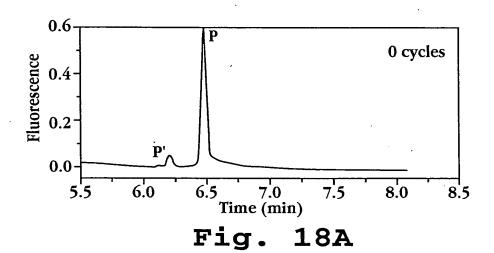
## ACLA097

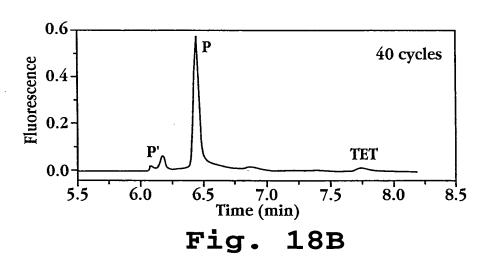
#### **Fluorescein**

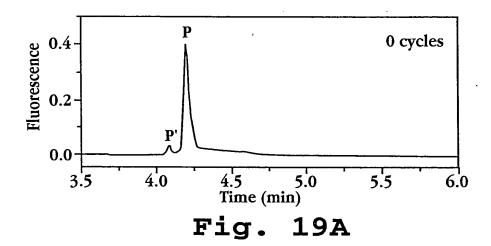
$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

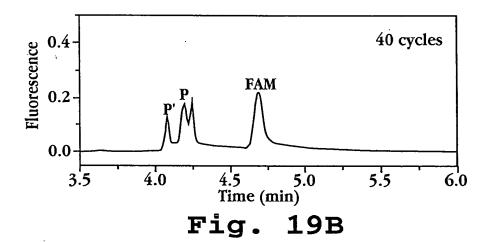
# Fig. 17I

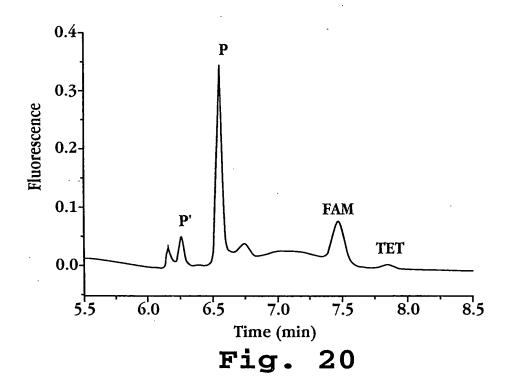
Fig. 17J











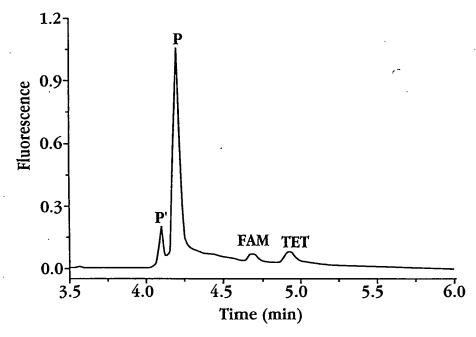


Fig. 21

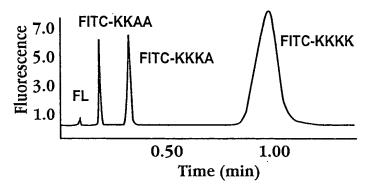


Fig. 22

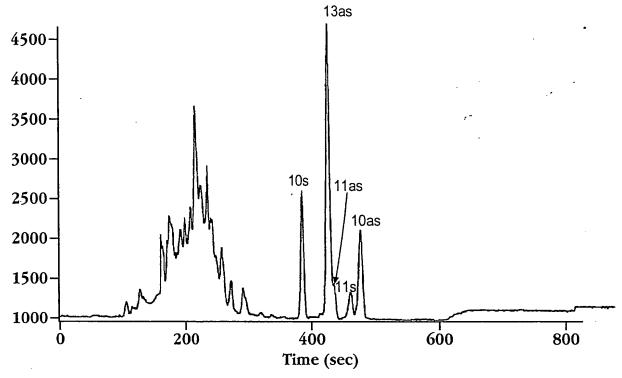


Fig. 23A

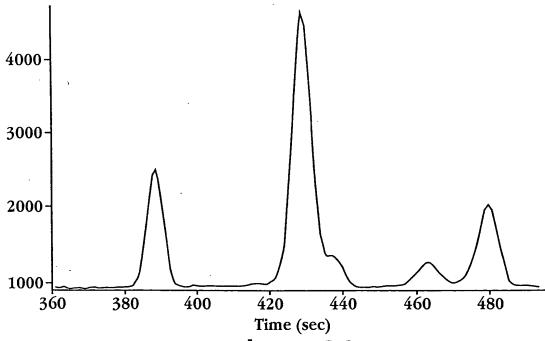


Fig. 23B

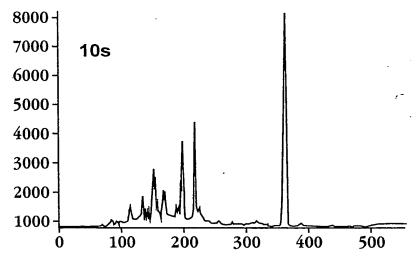
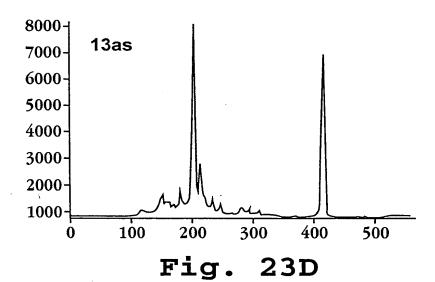


Fig. 23C



2000- 11s 1800-1600-1400-1200-1000-800-0 100 200 300 400 500 Fig. 23E

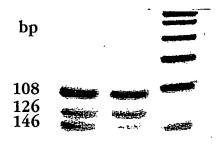
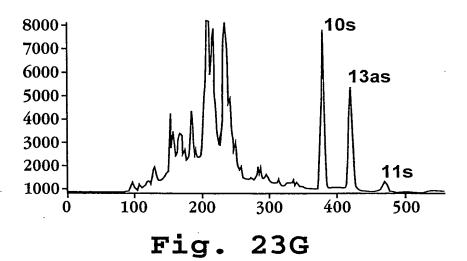


Fig. 23F



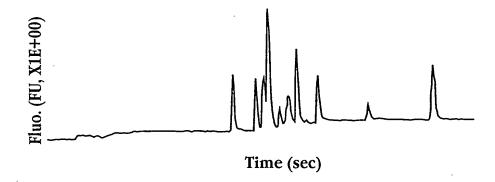


Fig. 24

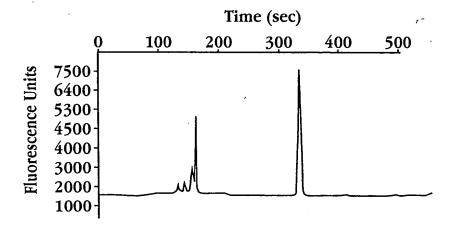


Fig. 25A

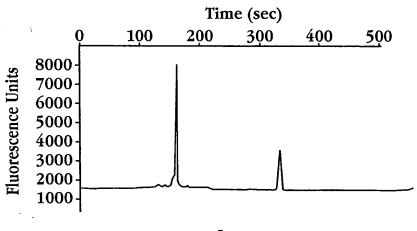


Fig. 25B

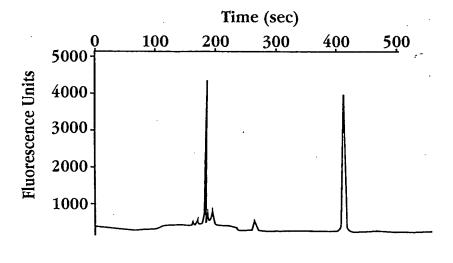


Fig. 25C

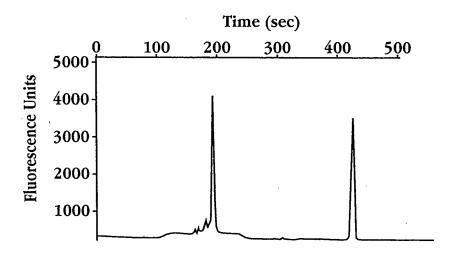


Fig. 25D

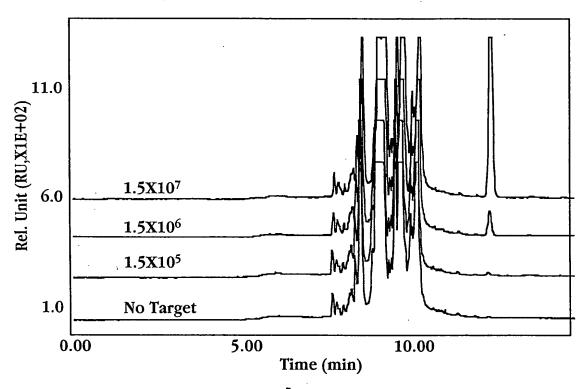


Fig. 26

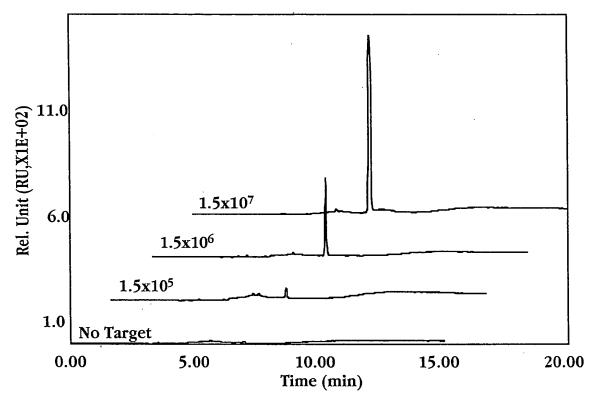


Fig. 27

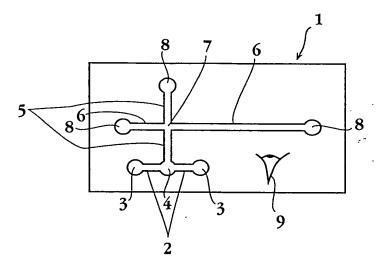


Fig. 28A

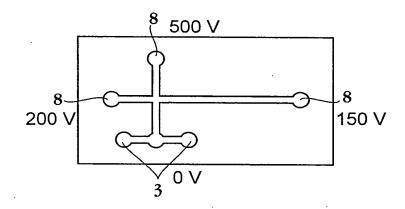


Fig. 28B

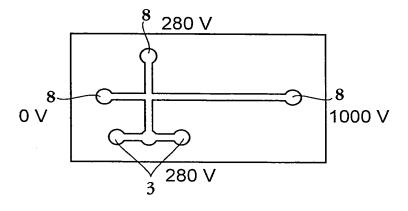


Fig. 28C

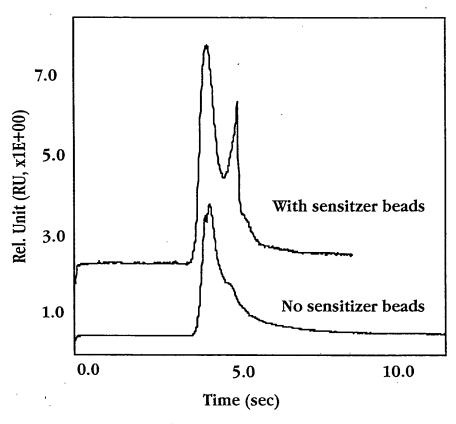


Fig. 29

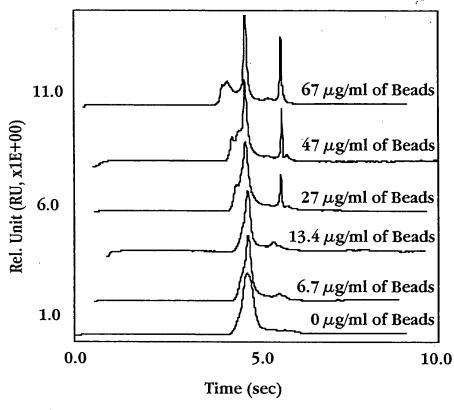


Fig. 30

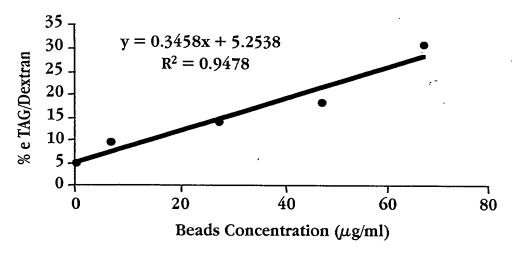


Fig. 31

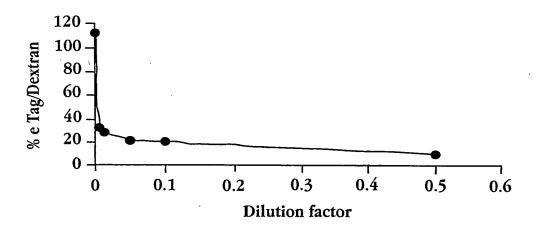
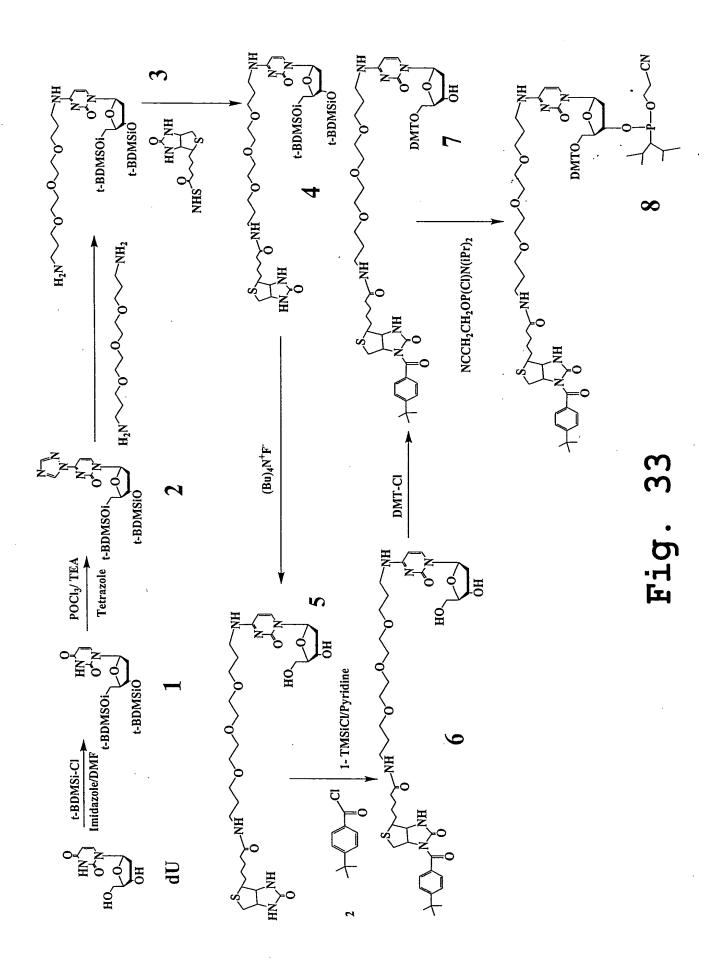


Fig. 32



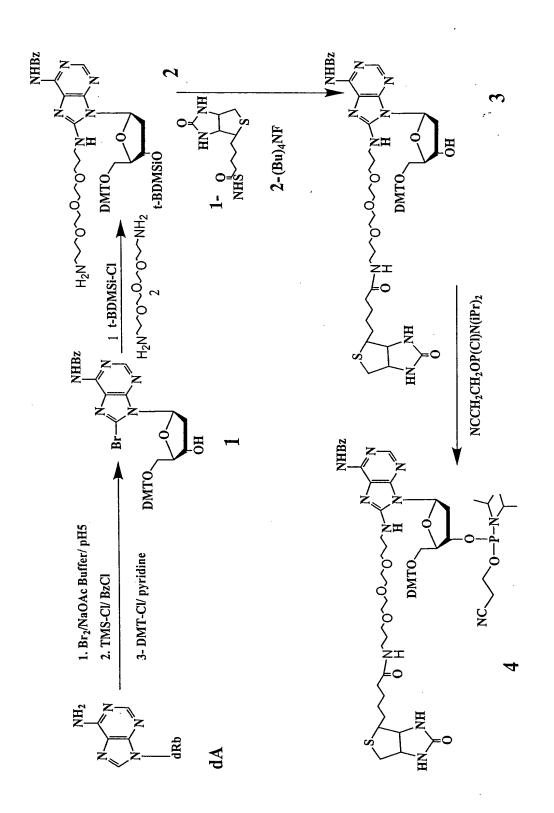


Fig. 34